ASSESSING THE EFFECTIVENESS OF BUSINESS SUPPORT SERVICES IN ENGLAND: EVIDENCE FROM A THEORY BASED EVALUATION

Working Paper No. 93
March 2008

Kevin Mole, Mark Hart, Stephen Roper and David Saal

Warwick Business School's Small and Medium Sized Enterprise Centre Working Papers are produced in order to make available to a wider public, research results obtained by its research staff. The Director of the CSME, Professor David Storey, is the Editor of the Series. Any enquiries concerning the research undertaken within the Centre should be addressed to:

The Director
CSME
Warwick Business School
University of Warwick
Coventry CV4 7AL

e-mail david.storey@wbs.ac.uk Tel. 024 76 522074

ISSN 0964-9328 – CSME WORKING PAPERS

Details of papers in this series may be requested from:

The Publications Secretary
CSME
Warwick Business School,
University of Warwick,
Coventry CV4 7AL

e-mail sharon.west@wbs.ac.uk Tel. 024 76 523692

Assessing the Effectiveness of Business Support Services in England: Evidence from a Theory Based Evaluation

Kevin Mole*, Mark Hart**, Stephen Roper* and David Saal***

March 2008

* University of Warwick, Enterprise Group, Warwick Business School, Coventry CV4 7AL
Tel: 024-7652-3918 E-mail: Kevin.mole@wbs.ac.uk

** Small Business Research Centre, Kingston University
*** Aston Business School

Abstract:
In England, publicly supported advisory services for small firms are organised primarily through the Business Link (BL) network. Based on the programme theory underlying this business support services we develop four propositions and test these empirically using data from a new survey of over 3,000 English small firms. Our empirical results provide a broad validation of the programme theory underlying BL assistance for small firms in England during 2003, and more limited support for its effectiveness. More specifically, we find strong support for the value of BL operators maintaining a high profile as a way of boosting take-up. We also find some support for the approach to market segmentation adopted by BL allowing more intensive assistance to be targeted on younger firms and those with limited liability status. In terms of the outcomes of BL support, and allowing for issues of sample selection, we find no significant effects on growth from 'other' assistance but do find positive and significant employment growth effects from intensive assistance. This provides partial support for the programme theory assertion that BL support will lead to improvements in business growth performance and stronger support for the proposition that there would be differential outcomes from intensive and other assistance. The positive employment growth outcomes identified here from intensive assistance, even allowing for sample selection, suggest something of an improvement in the effectiveness of the BL network since the late 1990s.

Key words: Small business; Business support services; Business Link; sample selection; England

6,158 words (excl. references and tables)

Assessing the Effectiveness of Business Support Services in England: Evidence from a Theory Based Evaluation

Introduction

The provision of advisory support to small firms is almost ubiquitous in OECD countries (OECD, 2002), although publicly supported advisory services are organised in different ways, and justified on slightly different grounds (Mole and Bramley, 2006). Debates are also ongoing concerning the effectiveness of publicly supported advisory services and the precise role that publicly funded advisers should take (Hjalmarrsson and Johanson, 2003; Keogh and Mole, 2005). In England, publicly supported advisory services are organised, in the main, through the Business Link (BL) network which is the focus of this study. BL are England's version of the 'one stop shop' approach to supporting SMEs. The BL model was first outlined in government policy statements in the late 1980s, finalised in 1992 and has undergone many transformations since (Roper and Hart, 2005). In 1999 the local Business Link Operators (BLOs) were reorganised, with the number of BLOs being reduced to 45. The role of the business adviser was changed to emphasise brokerage and referral rather than direct help. The raising of fees was also de-emphasised. In delivery terms, there was evidence that these changes to the BL network had a positive impact on BL performance and increased market penetration. In the period 1997-2002, market penetration by BLOs increased to 32.6 per cent of businesses (Bennett and Robson, 2003). This positioned BL as the primary source of public sector business support in England, although, as Bennett and Robson (2004) emphasised, the level of client satisfaction with the service still depends strongly on the characteristics of the individual business adviser.

We consider two specific questions; what sort of companies receive advisory support from BL? And, what benefits do firms derive from that support? Our study can therefore be seen as a response to Pawson and Tilley (1997), which argues that there is a need for scheme evaluations to 'look under the hood' to identify what shapes specific interventions and their impacts. Our analysis of what types of firm receive BL assistance reflects debates both about the targeting of assistance - and its effectiveness – and the mechanisms by which BL promotes its advisory services to

firms. The BL service is reactive in the sense of being available to all small firms within England – regardless of size and sector – and we attempt here to identify those groups within this broad population that are more likely to receive BL assistance. Roper and Hart (2005), as part of a previous evaluation of the effectiveness of BL support during the late 1990s, for example, emphasise both the importance of firm growth as a determinant of the receipt of BL support, alongside whether firms had received various informational inputs from BL itself.

Once firms have received BL support, our second research question relates to how this translates into additional employment or sales growth. Previous studies (e.g. Roper and Hart, 2005) identified positive employment growth effects from BL assistance, albeit for an earlier period and a smaller group of recipient companies than that considered here. Our interest here – as in our earlier study – is in the average policy treatment effect and how this differs between two forms of BL assistance: 'intensive assistance' which generally involved on-going support and regular contacts between a firm and BL over a period of time and 'other assistance' which was a one-off intervention.

We provide the results of a robust econometric study of the impact of outside assistance on sales and employment, which controlled for self-selection. Many of the previous studies have assessed the perception of the study rather than hard outcomes, (Bennett and Robson, 2003) or failed to control for the effects of selection (see for example Chrisman and McMullan, 2000; Chrisman, *et al.*, 2005). Those studies that have accounted for self-selection in BL have been confined to urban areas (Roper and Hart, 2005).

Secondly, in addition to the self-selection we have distinguished between types of advice. Although Robson and Bennett (2000) distinguished between the types of advice that were received in detail, our study is the first evaluation of BL to distinguish between intensive and non-intensive assistance, which was a distinction introduced after the data from Robson and Bennett (2000) was collected. In doing so we can implicitly separate the impacts from the non-intensive signposting service offered by BL, from those impacts generated by more intensive, and expensive, advisory services

Third, we compare the outcomes of outside assistance with its programme theory so that the theory and outcomes are related in a test of evidence-based policy. Policy implications follow directly both in terms of the effectiveness of the two forms of BL intervention, and potentially into the optimal balance between types of intervention. This is particularly important in the UK context as responsibility for the targeting and delivery of BL support in England has now been devolved to the Regional Development Agencies (RDAs). Following regional pilots which started in 2003, the 2004 Budget Papers included the announcement that 'given the advantages in improved co-ordination shown by the RDA-led business support pilots, the Government has decided to extend the approach in the pilots to all of the English regions' (HM Treasury, 2004: 55). Devolving BL services was intended to offer a service more responsive to local needs and therefore RDAs were given the ability to tailor support to the key challenges in their local areas (HM Treasury, 2004).

The study reported here relates to the effectiveness of BL intensive assistance immediately prior to the regionalisation of the BL network. More specifically, our focus is on BL intensive assistance that was provided between April and October 2003 and its impact on business growth over the following two years[1]. Intensive assistance is assistance given to SMEs by BL which involves the provision of some services on an on-going basis. In the main, intensive assistance was triggered by an action plan agreed with a client. Non-intensive assistance is usually a one-off event. Our evaluation follows other earlier studies of the effectiveness of BL assistance including most recently the BL tracker study (Roper *et al.,* 2001; Roper and Hart, 2005). At the time of our study significant debates were on-going in terms of the implementation of BL support and the 'one-size-fits all' national approach. Implementation issues revolved primarily around 'targeting' (Mole, 2002b). In an attempt to overcome the 'one-size-fits-all' problem a brokerage model was developed where the role of the, renamed, business adviser was to assess need and to direct the client to those best able to fulfil that need. The implementation of brokerage has spawned more than one model, including 'internal' brokerage where there is modest independence between the broker and client. This brokerage role for publicly supported advisory services has been called for by Hjalmarrson and Johannson (2003)

[1] The Small Business Service revised the definitions of intensive assistance subsequent to the period of this investigation.

and can be seen implemented in a hub and spoke model (Lambrecht and Pirnay, 2005).

The remainder of the paper is organised as follows. Section 2 focuses on the programme theory underlying BL support and the propositions it implies. Section 3 focuses on our data and empirical methodology. Section 4 then outlines our key results, reflecting both factors shaping the receipt of support as well as the impact of that support on the growth of recipient firms. Section 5 highlights the key conclusions and summarises the policy implications.

Programme Theory and Propositions for Business Link

The evaluation approach we adopt here aims to test the 'programme theory' or causal model underlying the English BL programme as well as its outcomes ((Donaldson and Gooler, 2003). In other words, our objective is not just to assess programme outcomes but also to consider whether these outcomes are being achieved through the mechanisms envisaged in the underlying 'programme theory' (Lipsey, 1993). This requires a theoretically grounded analysis of process and causal mechanism alongside the evaluation of outcomes and, in empirical terms, suggests the value of a mixed-methods evaluation methodology combining a qualitative examination of processes and decisions with a more quantitative assessment of outcomes.

The first step in defining any programme model is the specification of programme objectives (Donaldson and Gooler, 2003), which in the case of BL relates to improving the contribution made by small firms to UK productivity growth, and narrowing the productivity gap with the US, France and Germany (HM Treasury (2004). More specifically, BL is part of the government's attempts to 'to build an enterprise society in which small firms of all kinds thrive and achieve their potential, with (i) an increase in the number of people considering going into business, (ii) an improvement in the overall productivity of small firms, and (iii) more enterprise in disadvantaged communities' (DTI, 2006).

The second major element of any programme theory is the definition of the process model through which the programme objectives are envisaged to occur (Lipsey,

1993). That is, in the case of BL assistance, the process through which BL advisory support influences business performance. This process model has a number of steps relating initially to firms' engagement with BL, decisions about the type of assistance which firms will receive and the subsequent intra-firm processes and capabilities which benefit from assistance and so improve performance.

Not all firms take business advice from agencies before start-up. Those that do take advice may have an acknowledged 'knowledge deficit' (Chrisman *et al.,* 2005). Thus, they may be aware that they lack some useful entrepreneurial knowledge and may therefore look around to see whether it is available elsewhere. One of the difficulties of reacting to the perceived 'knowledge deficit' is to identify the providers of solutions. On this view it may be that marketing is critical for the take-up of advice because until the small business owner identifies where the knowledge might be available they may not act on their 'knowledge deficit'. Taking advice from business support may be activated only under certain circumstances (Markham, 1997; Keogh and Mole, 2005). Atherton (2007) argued that, if the market was mature, the requirement to market business support services was itself evidence of dissatisfaction. The logic of his position was that the heavy marketing requirement reflected the lack of repeat business, and repeat business is an indication of quality.

A second view concerning which businesses took advice was developed by Greene *et al.,* (2007) in their work in the manufacturing sector. They argued that there was a sense of entitlement felt by new business owners. Those who felt that they were entitled to support for their businesses were more likely to come forward for advice irrespective of whether they felt that they lacked knowledge. In this reading, sector may be more important as a predictor of take-up.

As indicated earlier the BL service in England adopts a largely reactive strategy, although it is available to all small firms on demand. A key element of the BL process model has therefore been to attempt to maintain high visibility and brand awareness to attract users (SBS, 2004)[2]. In a previous evaluation of BL assistance, for example, a

[2] Evidence on the success of this aspiration is mixed, however. The 2004 FSB survey of its members found that lack of awareness of the services offered was the major reason that firms did not use government-funded business services (Rigby, 2004). The SBS's annual survey of business, however,

range of promotional strategies adopted by BL were identified as important determinants of individual firms' receipt of BL assistance (Roper and Hart, 2005). This leads to our first proposition:

Proposition 1: Promotion

Promotional strategies adopted by BL will be positively related to firms' receipt of BL advisory services.

The second element of the BL process model relates to market segmentation, with some firms receiving the basic BL advisory service –'other assistance' - and other firms being selected by BL to receive more intensive assistance. What is less clear, however, are the criteria which were used by BL to select firms for more intense support. Diagnostic filters can enable a BLO to profile those firms that they favour (Martin 2006). For example, firms might be selected to receive BL intensive assistance where they are seen as winners (e.g., Jennings and Beaver, 1995), where they are seen as under-performing (e.g,. Roper and Hewitt-Dundas, 2001), or where they face some short-term strategic or managerial crisis or management opportunity (Markham, 1997). In any case, the characteristics and situation of firms receiving 'other' and 'intensive' assistance are likely to differ, with different factors likely to have different impact on firms' receipt of each type of assistance. Hence Proposition 2:

Proposition 2: Market Segmentation

Firm characteristics and operating environment will have different impacts on the probability that a firm receives 'other' or 'intensive' assistance.

The provision of BL assistance is then envisaged to either improve the management skills and capabilities of smaller firms, or enable firms to develop internal capabilities to analyse their problems and derive solutions and thereby ultimately improve business performance (SBS, 2003). Effectively, this involves a process of learning by

---

suggested that: 'Overall, 68 per cent of all small businesses were aware of BL either prompted or unprompted. Just over a fifth (21%) of all SMEs were aware of a national advisory service and could name it as BL unprompted. A further 47 per cent of all small businesses were aware of BL when prompted but did not initially identify the existence of a national service.' (SBS, 2006: 153).

the enterprise, facilitated by an atmosphere of trust and long-term perspective to developing stronger relationships (Bryson and Daniels, 1998)[3]. Chrisman and McMullan (2004) distinguish between the types of knowledge available from business support agencies from tacit knowledge, that is best gained face-to-face and is highly context dependent, and more generic coded knowledge available more widely. The tacit knowledge is associated with intensive assistance, and in their view can lead to improved outcomes for business. There is a view that the most important part of the business support is through its ability to signpost small business people to help (Commission on Public Policy & British Business, 1997). In this sense the service's aim is to provide basic information but not to be involved with more intensive forms of assistance. This suggests that the learning, and hence, performance impacts of 'intensive' and 'other' assistance might be very different suggesting Propositions 3 and 4

Proposition 3: Outcomes

Receipt of BL assistance will, *ceteris paribus,* be positively related to improvements in small business performance.

Proposition 4: Outcome Differentials

Receipt of 'intensive' BL assistance will, *ceteris paribus,* lead to greater improvements in small business performance than 'other' assistance.

Data and Methods

Our analysis is based on a structured survey of firms in England assisted by BL between April and October 2003, and a comparable group of non-assisted businesses matched by size, broad sector and region. Survey work was conducted by telephone between May and July 2005 with owner-managers and firm managing directors comprising the majority of respondents. The sampling frame for firms assisted by BL

[3] The tension between the length of time needed to develop strong ties and the performance monitoring of BL has been explored previously by academics regarding about the impact on the time taken with each firm on the measurement against target of the number of firms advised (see Sear and Agar, 1996; Mole 2002b).

was provided directly by the BLOs[4], who were asked to provide all the recipients of advice during the period, the random sample was then drawn from the population of firms that had received advice. The sampling frame for non-assisted firms was drawn from the Dun and Bradstreet UK database. Here, an initial question was used to confirm that they had not received assistance from BL over the reference period (April to October 2003)[5]. The response rates to the survey were 44 per cent among the intensively assisted group, 36 per cent among other assisted firms and 23 per cent among non-assisted firms. A Computer Aided Telephone Interviewing (CATI) system was used to automate the administration of the telephone survey. The survey was piloted and a number of questions were amended or withdrawn after the pilot phase. The key characteristics of the 3,448 respondent firms and their operating environments in each group are summarised in Table 1.

[Insert Table 1 here]

Differences in the characteristics of firms in the assisted and non-assisted groups are important because of their potential impact on both process and outcomes. For example, firm size has often been negatively linked to business growth in the empirical literature focussed on Gibrat's Law (see, for example, the discussion in Harris and Trainor, 2005). However, in our sample there is no significant difference between the mean size of assisted and non-assisted firms, regardless of whether size is measured by employment or sales turnover, although there are significant differences between the sales and employment growth rates of assisted and non-assisted firms (Table 1).

More significant differences are however evident between the age structures of the assisted and non-assisted groups, with BL assisted firms generally being younger than

[4] Firms' receipt of BL assistance was also confirmed by a survey question asking whether firms had used BL services during the reference period (April to October 2003). 96.5 per cent of respondents confirmed their use of BL services.

[5] Of the non-assisted respondents, 13.8 per cent reported using BL as a source of advice or assistance at some point in the past, with the majority of these (92.4 per cent) confirming that this BL assistance had been provided prior to the start of the reference period (i.e. before April 2003). The remaining 7.6 per cent were unable to be certain about the timing of the BL assistance they had received. The suggestion is, however, that the extent of any contamination of the non-assisted sample was low, and that they will therefore provide a valid control group. In the non-assisted group 43.1 per cent responded negatively when asked whether 'they had ever heard of BL before this interview today'.

those in the non-assisted groups. For example, 41 per cent of non-assisted firms had been established for more than 20 years compared to only 27 per cent of intensively assisted firms and 28 per cent of firms receiving other assistance (Table 1). If, as we might expect, younger firms tend to grow faster, we would also expect, all other things unchanged, that the assisted groups will be growing faster than the non-assisted group (Evans, 1987a, b, Johansson, 2004).

Two other firm characteristics also differ significantly between the assisted and non-assisted groups (Table 1): whether or not the plant was part of a multi-plant group and whether or not the firm was exporting. In both cases the proportion of assisted firms which were part of multi-plant groups (17-18 per cent) and exporting (20-29 per cent) were higher than the proportions sharing similar characteristics in the non-assisted group (13 and 15 per cent respectively). Pfaffermayr (2004), for example, considers both factors – and their interaction – in his study of Austrian firms and concludes that export propensity contributes positively to firm growth (see also Roper, 1999), an effect which is reinforced if the firm also has links to other multi-national assets (see also Cantwell and Sanna-Randaccio, 1993). Based on this evidence, and other studies which have suggested a positive effect from firms' links to international markets (e.g. Cantwell and Sanna-Randaccio, 1993), we would, *ceteris paribus*, expect the assisted group to grow faster than the non-assisted group.

Another factor which has been linked to business performance in previous studies is legal form, with Storey (1994) finding a positive relationship between limited liability status and employment growth. In our data, both intensively assisted firms (72 per cent) and other assisted firms (59 per cent) were significantly more likely to be limited liability firms compared to the non-assisted group (50 per cent), again suggesting that, *ceteris paribus,* we might expect the assisted groups to be growing more rapidly. Turning to management team characteristics, a similarly positive growth effect might also be anticipated given the greater preponderance of non-executive directors in the assisted groups of firms. Deakins *et al.,* (1998), for example, found that despite considerable heterogeneity in the role of non-executive directors in small firms there was considerable 'value added' in the contribution of non-executive directors as both mentors and for provision of strategic advice. Interestingly, we find no significant differences in either the gender or ethnic diversity of management

teams when we compare the group means for assisted and non-assisted firms in our sample suggesting these factors are unlikely to be having any significant impact on differential growth performance.[6]

Aspects of strategy also differ between the assisted and non-assisted groups, with the assisted groups being significantly more likely to have a formal business plan as well as being more likely to engage in each of the more ambitious strategic options identified in the survey, which are a strategy focusing on new markets and a strategy focusing on new products and new markets. More dramatically, our evidence suggests that while 63 per cent of intensively assisted firms have a formal business plan, the same is true of only 30 per cent of non-assisted firms (Table 1). Evidence from a range of studies suggests that both business planning (e.g. Orser *et al.,* 2000)[7] and strategy choice can contribute positively to small business growth. Roper (1999), for example, based on an analysis of data from a group of Irish small firms, concludes that appropriate strategy choice can have significant positive effects, particularly for turnover growth. Again, based on this prior evidence, both the more widespread use of formal business planning and ambitious strategy among the assisted group would suggest that, even in the absence of BL assistance, we might expect this group to be faster growing.

The entrepreneurship and small business literatures also emphasise the central role of the entrepreneur or firm owner-manager (e.g. Storey, 1994) and in the survey we identified a number of owner-manager characteristics (see Mole *et al.,* 2008). Some of these are identified in Table 1, with the most significant contrasts being in the age profile and the entrepreneurial record of the owner-managers involved, that is, whether or not they were serial business founders (Table 1). Evidence on the implications of owner-manager age for business growth are fairly uniform with studies generally finding a monotonic, negative relationship, that is, *ceteris paribus*, the older the owner-manager the slower business growth, (see, for example, the

[6] Gender and ethnic diversity are respectively defined as the proportion of all partners and directors who are female or drawn from ethnic minorities.

[7] Interestingly, Orser et al. (2000) found that about a third of their sample of Canadian SMEs were engaged in formal business planning, a proportion very close to that among the non-assisted group in our data. Among the intensively-assisted group formal business planning was much more common with 63.4 per cent of firms reporting having a formal business plan (Table 1).

discussion in Barkham *et al.,* 1996, pp. 66-68). In our study we find little consistent difference in the age profile of firm owner-managers between the assisted and non-assisted groups. More important perhaps is the larger proportion of serial founders (40 per cent) in the assisted group, which has been linked to more positive growth prospects for firms (e.g., Westhead *et al.,* 2003)[8].

Market characteristics may also play a significant role in shaping firm performance and in our analysis, and we therefore make use of two dummy variables to capture the general intensity of market competition and the price sensitivity of firms' markets (Table 1). Reassuringly perhaps we find no significant difference between the proportions of firms in the assisted and non-assisted groups indicating that competition in their main markets was 'intense' or 'very intense' (around 60-64 per cent). Fewer firms in the other assisted group, however, indicated that their own price sensitivity was more than 30 per cent than in either of the other two groups of firms[9].

In summary, the characteristics of firms in the assisted and non-assisted groups differ systematically, which we would expect to influence average growth rates between the two groups, even without BL intervention (see Table 1). In particular, the fact that assisted firms are younger, more likely to have limited liability, more likely to be exporting and more likely to have non-executive directors all suggest they might be expected to grow faster than non-assisted firms even in the absence of assistance.

The programme theory for BL assistance outlined in Section 2 maps well onto a standard two-stage treatment model with sample selection with Propositions 1 (Promotion) and Proposition 2 (market segmentation) relating to the probability of receiving either intensive or other assistance from BL, and Propositions 3-4 relating to treatment outcomes. So, if π is an indicator of business growth, a basic model that encapsulates these effects can be defined in a model of the form (Greene, 1997, p. 642):

[8] Indeed, they suggest that given the evidence that firms run by serial and portfolio entrepreneurs perform better than other firms there is a case for targeting support at such individuals.

[9] Intensity of competition is based on a question which asked - How would you describe the nature of the competition in your main markets? – with intense and very intense responses being coded as one. Price sensitivity was derived from a question - Thinking specifically about your own prices, if you were forced by cost increases to raise your prices by 10%, to what extent do you think this would impact on your sales? Responses suggesting a 30 per cent or greater fall in sales were coded as one.

$$z^* = \gamma' v + w$$

where z^* is the likelihood or probability of receiving BL assistance, and v is a set of informational and observable business and owner-manager characteristics which might influence the probability that a firm receives either intensive or other assistance. What we observe, however, is not the probability of receiving BL assistance (z_i^*) but a categorical variable which indicates whether a firm was intensively assisted, other assisted or not-assisted. In this situation the standard estimation method involves the estimation of a Probit model to estimate the probability of a firm being either assisted or not assisted.

Thereafter, to estimate the impact of BL assistance on business growth is reflected in estimates of average treatment effects (ATEs) for sub groups of assisted firms, following Wooldridge (2002). Consistent estimates of the models for employment and sales growth can be found by interacting the policy treatment effect with each element after subtracting its mean.[10]. Thus we estimate the equation

$$E(y_i \mid z_i, x_i) = \alpha + \beta x_i + \delta z_i + \phi z_i (x_i - \bar{x}_i) + \varepsilon_i$$

Where y_i is the ATE growth, z_i is the policy treatment variable taking 1 if the firms received assistance and 0 otherwise, x_i is a a vector of firm characteristics, $\bar{x}_i$ is a vector of sample averages α_i, β, δ and φ are estimated co-efficients and ε_i is the error term[11]. The programme theory for BL assistance suggests three main points of interest here: first, the absolute size of any growth effect of intensive or other assistance ; second, the relative size of any growth effects from intensive and other assistance; and, third any contingent factors which influence the impact of BL support.

[10] In the original survey firms were also asked about the components of value added per employee. Response rates to these questions were poor, however, so we focus here on business growth only.

[11] For continuous variables a unit increase in the variable leads to a percentage point increase in the growth rate which is 100 time the coefficient. That is, a coefficient of 0.03 implies an increase in the growth rate of 3 per cent for a unit increase in the explanatory variable. For dummy variables (which take the value 1 if a firm has a specific characteristic or zero otherwise), 100 times the coefficient reflects the percentage point increase in the growth rate due to moving from a value 0 to value 1. See Barkham *et al*,. (1996), pp. 32-40 for a detailed discussion of this form of model in the context of small business growth.

Empirical Results

Our empirical results fall into two groups reflecting first the factors which shape the probability that firms received either intensive or other BL assistance (Propositions 1 and 2), and secondly the impact of this assistance on business growth (Propositions 3-4). Tables 2 and 3 report Probit models relating to firms' receipt of BL assistance over the reference period April and October 2003, and Tables 4 and 5 report our treatment models of the impact of intensive and other assistance on sales and employment growth between firms' 2004 and 2005 business years.

Our first results therefore relate to Probit models for the probability of receiving either intensive or other BL assistance (Table 2). In each case we model the probability of receiving either intensive or other assistance relative to being non-assisted. Our models perform relatively well, with high proportions of correct predictions and a number of significant variables. The programme theory for BL assistance suggests two issues are of particular interest here: the importance of BL's promotional strategies in influencing firms' likelihood of receiving BL assistance (Proposition 1), and any evidence of market segmentation between the factors determining firms' receipt of intensive or other assistance (i.e. Proposition 2). We find strong support for Proposition 1, i.e. the importance of BL's attempts to maintain a high profile to attract users (SBS, 2004). More specifically, firms' receipt of BL mail shots, their use of the BL Website, direct contacts with BL, and receiving an introduction from an advisor all led to statistically significant increases in the probability of receiving both intensive and other assistance (Table 2). In contrast, while receiving a referral from a friend resulted in a statistically significant increase in the probability of receiving intensive assistance, this was not the case for other assistance. Our analysis therefore supports the effectiveness of this element of the programme theory underlying BL assistance. That is that the maintenance by BL of high visibility has been effective in encouraging the take-up of both intensive and other assistance by small firms.

[Insert Table 2 here]

Our second proposition relates to market segmentation by BL and the systematic targeting of intensive and other assistance towards firms with different characteristics.

If this is the case we would expect to observe differences in the factors which influence the probability of receiving intensive and other assistance. A direct test of this proposition is therefore to estimate a Probit model for the probability of receiving intensive rather than other assistance. The overall significance of these models, and any significant coefficients will suggest the existence and form of any market segmentation being undertaken by BL (Table 3). In fact, although our models are significant overall – as suggested by the equation χ^2 statistics - the overall fit of the models and the percentage of correct predictions are much lower than those in the assisted v non-assisted models in Table 2. This suggests that the differences in characteristics between the assisted and non-assisted firms are markedly greater than those between intensively and other assisted firms. Three factors differentiate firms receiving intensive assistance from other assisted firms (Table 3). First, they are younger firms with significantly fewer more than 10 years old. Second, they are more likely to be legally constituted companies – either legal partnerships or limited liability firms. Third, they are more likely to have been introduced to BL through personal contacts - direct contacts, friends or an advisor – rather than through mailshots or the BL website. Together these results provide support for Proposition 2, and suggest the achievement of a degree of market segmentation as suggested by the programme theory for BL support. Our results also suggest the nature of the market segmentation being adopted by BL in targeting intensive assistance. In particular, this support was being targeted at firms whose observable characteristics (i.e. age, legal status) suggest they were likely to grow rapidly even without public support (Storey, 2004; Harris and Trainor, 2005).

[Insert Table 3 here]

The impact of BL assistance is reflected in the treatment effect models for employment and sales growth. The programme theory for BL assistance suggests three main points of interest here: first, the absolute size of any growth effect of intensive or other assistance ; second, the relative size of any growth effects from intensive and other assistance; and, third any contingent factors which influence the impact of BL support.

No significant growth effects on either employment or turnover are found from other assistance, although both coefficients are positive (Table 5). Similarly, while we find no significant sales growth effect from intensive assistance there is a positive and significant employment growth effect (Table 4).

[Insert Tables 4 and 5 here]

Selection effects are generally weak and for intensively-assisted firms take varied signs. The support these results provide for Proposition 3, relating to outcome effects is, therefore, mixed. While we find no support for Proposition 3 in terms of other assistance, we find partial support for BL intensive assistance. Our results also provide some support for Proposition 4 – outcome differentials – with more significant growth effects from intensive rather than other assistance. One interesting question here is why BL assistance was having a larger short-term effect on employment growth than it was on sales. One possibility – found in both the innovation (e.g. Love and Roper, 2005) and small business research literatures (e.g. Roper and Hewitt-Dundas, 2001; McGuinness and Hart, 2004) - is a type of restructuring effect in which assistance encourages the firm to explore new opportunities which require new employees, but which take some time to have a sales or productivity benefit[12]. If this was the case, the initial effect observed would be employment growth with subsequent productivity growth as the opportunity developed. If BL assistance – particularly intensive assistance – was encouraging firms to adopt this type of development path, the observed effects would be anticipated. Of course, this also means that our impact estimates - based on the impact of assistance over an 18-24 month period - are also likely to underestimate the longer-term benefits of each project.

Assessing the Economy-wide Impact of Business Link Assistance

The average treatment effect (ATE) models suggested employment growth in intensively-assisted firms is two percentage points higher than that in the absence of assistance. We, therefore, base our estimates of BL impact on the positive and

[12] See Roper and Hewitt-Dundas (2001) and Love and Roper (2005).

significant employment growth effects identified. This approach to a value for money estimate makes the assumption that firms create jobs due to the prospect of future sales, implicitly accepting that there is a type of restructuring effect discussed above (Roper and Hewitt-Dundas, 2001; McGuinness and Hart, 2004). This assumption is necessary as our data does not span a sufficient post-intervention time period to directly test for this hypothesized impact on future sales. This approach assessing the longer term economy-wide benefits of BL assistance, therefore, requires three additional steps. First, increments to employment growth based on the models are converted into absolute employment gains. Secondly, these estimates are then grossed up to national scale based on the number of interventions with intensively-assisted firms. Finally, these employment impact estimates are translated into value-added estimates using ratios of value-added per employee derived from the Annual Business Inquiry (ABI). These steps are reported in Table 6.

[Insert Table 6 here]

These estimates suggest that over the 2004-05 business year intensive BL assistance nationally increased employment by 22,622 jobs. This additional employment generated value added of £333m. A number of factors have to be borne in mind in considering these estimates, however. They are subject to relatively wide confidence intervals and these figures probably under-estimate the overall impact of BL for three reasons. First, the calculation excludes any positive effects of other assistance. Second, any benefits after the survey date would be excluded. Third, any positive multiplier effects from additional demand generated by more rapidly growing employment were excluded. Of course, the figures were not subject to displacement, in part because the absence of own price elasticity suggests that the firms were operating in less competitive markets where displacement was likely to be low.

To provide an indication of the robustness of these estimates it is possible to derive a 'break-even' scenario given the value added per employee figures in Table 6. These figures, and the costs of the BL service, suggest that the level of job creation for break-even (i.e. the benefits from BL assistance equalling the cost) is around 10,700 jobs or 47 per cent of the central point estimate for job creation. The implication is

that even if the models over-estimated the average level of job creation by a significant margin BL assistance would still generate positive value added.

Conclusions

Our empirical results based on survey data from over 3,000 UK companies provide a broad validation of the programme theory underlying BL assistance for small firms in England during 2003, and more limited support for its effectiveness. The programme theory underlying BL support suggests that where BL organisations were maintaining a high profile this was likely to encourage take-up of BL support. We find strong support for this element of the programme theory with the provision of information by BL and direct contacts with potential clients having significant and positive effects on the take-up of both intensive and other assistance. Our take is that this is less to do with the lack of repeat business (Atherton, 2007) and more to do with the nature of advice being a response to a perceived problem (Markham, 1997) We also find evidence to support the notion of market segmentation in the programme theory with firm characteristics differing significantly between those firms selected to receive intensive and other assistance. In particular, younger firms and those with limited liability status were more likely to be provided with intensive assistance by BL. The greater likelihood that younger firms receive assistance is consistent with the idea that advice responds to a perceived knowledge gap (Chrisman *et al.,* 2005). However, the impact on those firms that were limited liability companies may be less consistent with this interpretation. The significance of the formal business plan is consistent with the findings from evaluations of other similar government programmes that suggest a prior commitment to planning aids the outcome (Fraser, 2003).

In terms of the outcomes of BL support, we find no significant effects on growth from other assistance but do find positive and significant employment growth effects from intensive assistance. This provides partial support for the programme theory assertion that BL support will lead to improvements in business growth performance and stronger support for the proposition that there would be differential outcomes from intensive and other assistance. The positive employment growth outcomes identified here from intensive assistance, even allowing for sample selection, suggest something of an improvement in the effectiveness of the BL network. Earlier studies, notably

Roper *et al.*, 2001; Roper and Hart, 2005, suggest no significant growth effects from BL assistance provided over the 1996-98 period[13]. We are able to use these significant employment growth models in the current analysis to derive an estimate of the longer-term economy wide benefits of BL intensive assistance delivered in 2003. The results demonstrate that the estimated 22,622 additional jobs created in the 2004-05 business year as a result of BL intensive assistance resulted in an additional £333 million value-added to the economy.

Over the period since the BL interventions considered here responsibility for the BL service in England has been devolved to the Regional Development Agencies (RDAs) with the aim of offering a more locally focussed service (HM Treasury, 2004). At the same time, operational changes have taken place as BL has moved towards a brokerage service model, in which the BL adviser acts as a 'sounding-board', provides diagnostic input and shares responsibility for outcomes with an external consultant (Hjalmarsson and Johansson, 2003). These organisational and operational changes suggest a move towards a more complex and diffuse programme theory than that examined here. Regionalisation of the BL service provides the potential for regional differences in programme theory in order to meet local requirements. In the West Midlands, for example, this might emphasise ethnic minority enterprise, while in the South West the emphasis might be on self-employment or tourist businesses. The move towards brokerage also suggests a more complex programme theory which, potentially, differentiates between diagnosis and delivery. Previous studies suggest this distinction might be important as clients' levels of satisfaction and perceived impact have been lower in diagnosis than in the delivery of programmes themselves (Bennett and Robson, 1999; Bennett and Payne, 2000; Lambrecht and Pirnay, 2005). The implication is that future evaluations of BL which adopt a theory-based approach will need a richer and more complex structure than that adopted here to capture both regional and operational changes.

[13] An earlier study by PACEC (1998) did find that BL support had a positive effect on both turnover and employment growth in a regression analysis. However, this result may reflect the failure of the PACEC study to allow for sample selection bias (Roper and Hart, 2005).

Having said this, our evaluation suggests that in 2003 BL services were providing 'value for money' in terms of their impact on wealth creation through their positive employment effect (Mole *et al.*, 2008). Further, longitudinal, follow-up of the firms included in the original survey is planned to assess whether the short-term employment gains identified here are translated into longer-term sales and productivity effects.

Table 1: Sample Characteristics

	Intensively N=1130		Other Assisted N=1166		Non Assisted N=1152		Whole Sample N=3448	
	Mean	Std	Mean	Std	Mean	Std	Mean	Std
Firm Characteristics								
Firm Size (Employment)	22.75	67.89	27.16	308.74	18.80	71.54	22.95	188.67
Sales (Turnover, £000)	2093	7528	2843	18244	2630	14116	2464	13221
Sales Growth (%)	0.09*	0.30	0.06*	0.24	0.02	0.21	0.06	0.25
Employment Growth (%)	0.15*	0.37	0.20*	0.54	0.08	0.23	0.14	0.38
Firm age 3-4 years	0.07	0.25	0.07	0.26	0.04	0.20	0.06	0.24
Firm age: 4-5 years	0.08*	0.28	0.07	0.25	0.05	0.23	0.07	0.25
Firm age: 5-10 years	0.20*	0.40	0.19	0.39	0.15	0.36	0.18	0.38
Firm age: 10-20 years	0.25*	0.43	0.28*	0.45	0.26	0.44	0.26	0.44
Firm age: 20 plus years	0.27*	0.45	0.28*	0.45	0.41	0.49	0.32	0.47
Multi-plant company	0.18*	0.38	0.17*	0.38	0.13	0.34	0.16	0.37
Exporting firm	0.29*	0.45	0.20*	0.40	0.15	0.35	0.21	0.41
Legal form								
Legal Partnership	0.12*	0.32	0.14	0.35	0.18	0.38	0.15	0.35
Ltd Liability Company	0.72*	0.45	0.59*	0.49	0.50	0.50	0.60	0.49
Other types of firm	0.02	0.15	0.03	0.17	0.04	0.18	0.03	0.17
Management Team								
Non-executive Directors	0.14*	0.34	0.14*	0.35	0.10	0.30	0.12	0.33
Number of directors	2.34*	2.51	2.31*	2.30	2.10	1.64	2.25	2.18
Gender diversity (%)	28.78	33.70	28.76	34.16	27.19	34.34	28.24	34.07
Ethnic diversity (%)	3.52	16.57	4.36	19.27	3.25	17.26	3.71	17.75
Business Strategy								
Focus: Sales in current	0.55*	0.50	0.53	0.50	0.50	0.50	0.53	0.50
Focus: Sales in new markets	0.19*	0.39	0.14*	0.35	0.10	0.30	0.15	0.35
Focus: New products, new	0.09*	0.29	0.07	0.26	0.06	0.23	0.07	0.26
Formal Business Plan	0.63*	0.48	0.53*	0.50	0.30	0.46	0.49	0.50
Owner-Manager Characteristics								
O-M has equity	0.86	0.34	0.86*	0.35	0.86	0.35	0.86	0.34
O-M age 25-34	0.09	0.28	0.10*	0.30	0.07	0.26	0.08	0.28
O-M age 35-44	0.29	0.46	0.28	0.45	0.29	0.45	0.29	0.45
O-M age 45-54	0.37*	0.48	0.35	0.48	0.32	0.47	0.35	0.48
O-M age 55 plus	0.22	0.41	0.21	0.41	0.24	0.43	0.22	0.42
Serial Founder	0.40*	0.49	0.36*	0.48	0.28	0.45	0.35	0.48
Market Characteristics								
Intense main market	0.64	0.48	0.59	0.49	0.61	0.49	0.61	0.49
High Own Price-Elasticity	0.08	0.27	0.05*	0.22	0.09	0.29	0.07	0.26
BL Information								
BL Mailshots	0.91*	0.29	0.90*	0.30	0.17	0.37	0.66	0.47
BL Website	0.67*	0.47	0.63*	0.48	0.05	0.21	0.45	0.50
BL Direct contacts	0.54*	0.50	0.42*	0.49	0.05	0.22	0.34	0.47
BL referred by friend	0.32*	0.47	0.22*	0.41	0.04	0.20	0.19	0.39
BL referred by advisor	0.15*	0.36	0.09*	0.29	0.01	0.11	0.08	0.28

Notes: Source: BL Telephone Survey (2005), * indicates a statistically significant difference between assisted groups and the non-assisted group means at the 5 per cent confidence level. Sample sizes in the table are the maximum for each sample group. Responses are weighted by region, broad sector and size to adjust for differential survey response. Missing values mean that in some cases sample sizes for some variables are smaller, a factor reflected in subsequent regression models.

Table 2: Probit Models of the Probability of Receiving BL Assistance

	Intensive Assistance				Other Assistance			
	Model 1		Model 2		Model 1		Model 2	
	dy/dx	t-stat	dy/dx	t-stat	dy/dx	t-stat	dy/dx	t-stat
Firm Characteristics								
Firm Size (Employment)	0.000	-0.250			0.000	-0.410		
Firm age 3-4 years	-0.138	-1.570	-0.091	-1.170	0.006	0.080		
Firm age: 4-5 years	-0.058	-0.720			-0.058	-0.820		
Firm age: 5-10 years	-0.188	-2.560	-0.153	-2.540	-0.035	-0.510		
Firm age: 10-20 years	-0.128	-1.870	-0.100	-1.870	-0.040	-0.620		
Firm age: 20 plus years	-0.293	-4.350	-0.258	-4.930	-0.184	-2.920	-0.150	-4.280
Multi-plant company	0.056	1.050	0.055	1.070	0.015	0.320		
Legal form								
Legal Partnership	-0.018	-0.300			-0.101	-1.750	-0.069	-1.410
Ltd Liability Company	0.112	2.410	0.128	3.240	-0.039	-0.940		
Other types of firm	-0.137	-0.990	-0.159	-1.190	-0.076	-0.520		
Management Team								
Number of directors	0.018	1.730	0.012	1.180	0.010	1.020		
Gender diversity (%)	0.001	1.970	0.001	2.080	0.001	1.020	0.001	1.500
Ethnic diversity (%)	0.000	-0.420			0.000	0.010		
BL Information								
BL Mailshots	0.568	16.480	0.569	16.760	0.613	18.820	0.610	19.190
BL Website	0.445	10.590	0.449	10.880	0.434	10.940	0.433	11.140
BL Direct contacts	0.338	7.340	0.339	7.390	0.229	4.940	0.233	5.110
BL referred by friend	0.141	2.480	0.136	2.400	0.061	1.040	0.083	1.400
BL referred by advisor	0.360	4.230	0.381	4.430	0.215	2.200	0.220	2.260
n	2064		2136		2083		2165	
Wald Chi2 (p=…)	839.61		857.02		813.85		818.00	
Pseudo R2	0.62		0.63		0.56		0.56	
% Correct Predictions								
Non-assisted firms	89.46		89.55		85.80		85.77	
Assisted firms	88.45		88.53		89.89		89.66	
All firms	88.95		89.04		87.85		87.71	

Notes: Models also include set of 15 industry dummy variables. Chi-Squared Statistic Indicates that $\rho<0.000$ in all models. Coefficients values reported are marginal values computed at variable means; Marginals for Dummy Variables relate to the impact of a change from 0 to 1. Observations are weighted to adjust for differential survey response

Table 3: Probit Models for the Probability of Receiving Intensive rather that Other Assistance

	Model 1		Model 2	
	dy/dx	t-stat	dy/dx	t-stat
Firm Characteristics				
Firm Size (Employment)	0.000	-1.900	0.000	-1.570
Firm age 3-4 years	-0.081	-1.370	-0.074	-1.400
Firm age: 4-5 years	-0.001	-0.010		
Firm age: 5-10 years	-0.067	-1.460	-0.049	-1.310
Firm age: 10-20 years	-0.088	-2.020	-0.086	-2.450
Firm age: 20 plus years	-0.088	-1.980	-0.082	-2.350
Multi-plant company	-0.006	-0.190		
Legal form				
Legal Partnership	0.104	2.380	0.095	2.330
Ltd Liability Company	0.198	5.970	0.191	6.440
Other types of firm	0.020	0.200		
Management Team				
Number of directors	-0.001	-0.220		
Gender diversity (%)	0.000	0.690		
Ethnic diversity (%)	-0.001	-0.840		
BL Information				
BL Mailshots	-0.044	-1.070		
BL Website	0.010	0.370		
BL Direct contacts	0.106	4.380	0.100	4.270
BL referred by friend	0.092	3.310	0.099	3.680
BL referred by advisor	0.102	2.740	0.095	2.610
n	2073		2200	
Wald Chi2 (p=…)	117.38		119.46	
Pseudo R2	0.0464		0.0452	
% Correct Predictions				
Other assisted firms	59.37		63.74	
Intensively Assisted firms	57.84		53.46	
All firms	58.61		58.68	

Notes: Models also include set of 15 industry dummy variables. Chi-Squared Statistic Indicates that $\rho<0.000$ in all models. Coefficients values reported are marginal values computed at variable means; Marginals for Dummy Variables relate to the impact of a change from 0 to 1. Observations are weighted to adjust for differential survey response

Table 4: Growth Impact of Intensive Assistance

	Employment Growth		Sales Growth	
	Coeff	t-stat	Coeff	t-stat
Constant	0.02	0.54	0.05	0.73
Firm Characteristics				
Firm Size	0.00	-0.67	0.00	-0.17
Size squared	0.00	0.41	0.00	0.83
Firm age: 3-4 years	-0.03	-1.47	0.04	0.89
Firm age: 4-5 years	-0.02	-1.20	0.02	0.44
Firm age: 5-10 years	-0.01	-1.06	-0.01	-0.40
Firm age: 10-20 years	-0.02	-1.40	-0.05	-1.44
Firm age: 20 plus years	-0.03	-1.98	-0.05	-1.54
Legal Partnership	0.01	0.65	0.03	1.09
Ltd Liability Company	0.02	1.53	0.03	1.31
Other type of company	0.00	-0.09	0.00	-0.03
Multi-plant firm	0.02	2.03	-0.02	-0.64
Exporter	0.00	0.05	0.00	0.20
Market Characteristics				
No. of competitors	-0.01	-1.42	-0.01	-0.42
Own Price Elasticity	-0.01	-0.43	-0.02	-0.70
Business Strategy				
Focus: Sales in current markets	0.02	3.10	-0.01	-0.43
Focus: Sales in new markets	0.02	1.53	0.08	3.61
Focus: New products, new markets	0.01	0.64	-0.01	-0.23
Formal Business Plan	0.03	3.25	0.01	0.34
Non-executive Directors	0.00	-0.14	0.04	1.38
Owner Manager				
O-M has equity	0.00	0.24	0.03	1.25
O-M age 25-34	0.02	0.94	0.03	0.61
O-M age 35-44	0.00	0.07	0.02	0.54
O-M age 45-54	-0.01	-0.39	0.05	1.17
O-M age 55 plus	-0.02	-1.04	0.02	0.58
Serial Founder	0.00	-0.22	0.01	0.77
Intensively-Assisted Firms	0.02	2.50	0.01	0.46
Selection Parameter	-0.01	-0.73	0.03	1.42
n	1425		619	
Adj R2	0.042		0.031	
F(.,)	2.65 (ρ<0.000)		1.51 (ρ=0.027)	

Notes: Models also include set of 15 industry dummy variables. Observations are weighted to adjust for differential survey response

Table 5: Growth Impact of Other Assistance

	Employment Growth		Sales Growth	
	Coeff	t-stat	Coeff	t-stat
Constant	0.03	1.35	0.04	0.42
Firm Characteristics				
Firm Size	0.00	-0.57	0.00	-1.64
Size squared	0.00	0.64	0.00	1.49
Firm age: 3-4 years	0.00	-0.07	0.11	1.95
Firm age: 4-5 years	0.00	0.20	0.02	0.33
Firm age: 5-10 years	-0.01	-0.56	-0.01	-0.27
Firm age: 10-20 years	-0.01	-1.01	-0.04	-0.74
Firm age: 20 plus years	-0.02	-1.52	-0.06	-1.23
Legal Partnership	0.01	0.69	-0.01	-0.18
Ltd Liability Company	0.02	2.35	0.04	1.27
Other type of company	-0.01	-0.52	-0.08	-0.77
Multi-plant firm	0.02	2.12	0.07	1.83
Exporter	0.00	0.46	-0.02	-0.78
Market Characteristics				
No. of competitors	-0.02	-2.35	0.00	-0.16
Own Price Elasticity	-0.02	-1.78	-0.11	-2.59
Business Strategy				
Focus: Sales in current markets	0.02	2.85	-0.05	-2.10
Focus: Sales in new markets	-0.01	-0.73	0.06	1.95
Focus: New products, new markets	0.03	2.21	-0.07	-1.62
Formal Business Plan	0.00	0.13	0.04	1.50
Non-executive Directors	0.01	0.49	0.00	-0.12
Owner Manager				
O-M has equity	-0.02	-1.96	0.01	0.44
O-M age 25-34	0.02	0.87	-0.02	-0.27
O-M age 35-44	0.02	1.33	0.00	-0.04
O-M age 45-54	0.02	1.12	0.02	0.54
O-M age 55 plus	0.00	0.14	0.01	0.31
Serial Founder	0.01	1.22	0.03	1.24
Other Assisted Firms	0.01	0.70	0.02	0.79
Selection Parameter	0.00	0.43	0.03	1.22
n	1381		441	
Adj R2	0.026		0.066	
F(.,)	1.98 (ρ=0.000)		1.82 (ρ=0.003)	

Notes: Models also include set of 15 industry dummy variables. Observations are weighted to adjust for differential survey response

Table 6. National Impact Estimates for Business Link Assistance

		Unrestricted Model		
	Notes		***Estimate***	
Average level of employment	1		22.7	
Average growth increment	2		2.0	
Implied additional employment per firm	3		0.454	
Number of assisted firms	4		49,830	
Total Employment Effect	5		22,622	
GVA per employee (£000pa)	6		27,990	
Total value added (£m)	7		633	
Total Cost of BL p.a. (£m)			300	
Net value added (£m)			333	

Notes and Sources:

1. Mean employment in intensively-assisted firms (2003-04 business year. Source: Table 3.6).
2. Average employment growth increment implied by employment growth models and upper and lower confidence interval limits (pp). Sources: Tables 4.5 and 4.6.
3. Average increment to employment per enterprise. Product of (1) and (2).
4. Number of intensively assisted firms per year. Source: BLOs.
5. Total employment effect. Product of (3) and (4).
6. GVA per employee in 2003 (£000pa), UK mean. Source: ABI.
7. GVA effect (£m pa). Product of (5) and (6).

References

Atherton, A. (2007) Comment at EMDA Seminar on Business Support, Nottingham April 2006

Barkham, R; Gudgin, G; Hart, M and Hanvey, E (1996) *The Determinants of Small Firm Growth: an inter-regional study in the UK, 1986-90* Jessica Kingsley, London

Bennett R.J. and Payne D. (2000) *Local and Regional Economic Development: Renegotiating Power under Labour*, Ashgate, Aldershot.

Bennett, R. J. and Robson, P. J. A. (1999) Intensity of Interaction in Supply of Business Advice and Client Impact: A Comparison of Consultancy, Business Associations and Government Support Initiatives for SMEs. *British Journal of Management* 10 (4), 351-369.

Bennett, R.J. and Robson, P.J.A. (2003) 'Changing use of external business advice and Government support during the 1990s', *Regional Studies*, vol. 37,8: 795-811

Bennett R, Robson P, 2004 "Support services for SMEs: does the 'franchisee' make a difference to the Business Link offer?" *Environment and Planning C* **22** 859 - 880

Bryson, J.R. and Daniels, P.W. (1998) 'Business Link, strong ties, and the walls of silence: small and medium-sized enterprises and external business-service expertise', *Environment and Planning C*, 16 (3): 265-280

Cantwell, J.A. and Sanna-Randaccio, F. (1990) 'Multinationality and firm growth' *Weltwirtschaftliches Archiv*, 129: 275-299

Chrisman J.J. and McMullan W.E. (2000) A preliminary assessment of outsider assistance as a knowledge resource: the longer term impact of new venture counseling, *Entrep. Theory Pract.* **24** (3), pp. 37–53.

Chrisman JJ, McMullan E, Hall J (2005) The influence of guided preparation on the long-term performance of new ventures *Journal of Business Venturing* 20 (6): 769-791

Chrisman JJ, McMullan WE (2004) Outsider assistance as a knowledge resource for new venture survival *Journal of Small Business Management* 42 (3): 229-244

Commission on Public Policy & British Business (1997) *Promoting Prosperity: Business Strategy for Britain* Vintage, London

Deakins, D., Mileham, P. and O'Neill, E (1998) 'The Role and Influence of Non-executuve Directors in Growing Small Firms, ACCA research report, ACCA, London.

Disney, R., Haskel, J., and Heden, Y. (2003a). Entry, exit and establishment survival in UK manufacturing, Journal of Industrial Economics, 51(1), pp. 91-112.

Disney, R., Haskel, J., and Heden, Y. (2003b). Restructuring and Productivity Growth in UK manufacturing, Economic Journal, 113, pp. 666-694.

Donaldson S.I. and Gooler L.E. (2003) Theory-driven evaluation in action: lessons from and $20 million statewide Work and Health Initiative, *Evaluation and Program Planning*, 26, 355-366

DTI (2006) *DTI Public Service Agreement Targets 2003-2006* http://www.dti.gov.uk/about/psa/ accessed 10/4/06

Evans, D. (1987a) 'The relationship between firm growth, size and age: Estimates for 100 manufacturing industries', *Journal of Industrial Economics*, 35, 567-581

Evans, D. (1987b) 'Tests of alternative theories of firm growth' *Journal of Political Economy*, 95: 657-674

Fraser, S. (2003): *The impact of IiP on small business performance: who benefits?*; Environment and Planning C: Government and Policy, 21, 793-812

Greene F.J., (2002) An Investigation into Enterprise Support For Younger People, 1975-2000, *International Small Business Journal*, 20, 315-336

Greene, F.J., Mole, K.F., and Storey, D J (2007) *Three Decades of Enterprise Culture: Entrepreneurship, Economic Regeneration and Public Policy*, Routledge, London

Greene, W.H. (1997) *Econometric Analysis* 3rd. Edition, MacMillan, New York

Harris, R.I.D. and Trainor, M. (2005) 'Plant-level analysis using the ARD: Another look at Gibrat's law, *Scottish Journal of Political Economy* 52, 492–518

Hjalmarsson D. and Johansson A.W. (2003) 'Public advisory services – theory and practice' Entrepreneurship and Regional Development, 15, 83-98

HM Treasury (2004) *Devolving decision making: 2 Meeting the regional economic challenge: Increasing regional and local flexibility*, HMSO, London.

Jennings, P. and Beaver, G. (1995) Picking winners - the art of identifying successful small firms. In, Hussey, D.E. (ed.) *Rethinking Strategic Management: Ways to Improve Competitive Performance.* Chichester, UK, John Wiley & Sons, 91-106.

Johansson, D (2004) Is small beautiful? The case of the Swedish IT industry. *Entrepreneurship & Regional Development*, 16: 271-287

Keogh, W and Mole, K (2005) The changing role of the small business adviser, Paper presented at 28th ISBE conference, November, Blackpool copy available from Kevin Mole, CSME, Warwick Business School, University of Warwick, Coventry, CV4 7AL

Lambrecht J, Pirnay F, 2005 "An evaluation of public support measures for private external consultancies to SMEs in the Walloon Region of Belgium", *Entrepreneurship and Regional Development*, 17, 89-108.

Love, J H and Roper, S (2005) 'Innovation, Productivity and Growth: An Analysis of Irish Data', Presented at the EARIE Annual Congress, Porto.

McGuinness S and Hart M (2004) "Mixing the grant cocktail: towards an understanding of the outcomes of financial support to small firms" *Environment and Planning C: Government and Policy* 22(6) 841 – 857

Markham, C (1997) Practical Management Consultancy, 3rd Edition, Accountancy Books, Milton Keynes

Martin, D (2006) Diagnosis: Man or Machine? in Excellence in Diagnosis, Business Link University available from Kevin Mole Warwick Business School

Mole K.F. and Bramley G. 2006 "Making policy choices in non-financial business support: An International Comparison" *Environment and Planning C: Government and Policy* 24, pp. 885-908

Mole, K., (2002a) Business Advisers Impact on SMEs: An Agency Theory Approach, *International Small Business Journal*, Vol. 20, 137-157.

Mole, K. (2002b) 'Street-Level Technocracy in UK Small Business Support:Business Links, Personal Business Advisers and the Small Business Service', Environment and Planning C: Government and Policy: Vol. 20, 2: 179-194.

Mole K, Hart M, Roper S, and Saal D, 2008, "Differential gains from Business Link support and advice: a treatment effects approach" *Environment and Planning C: Government and Policy* advance online publication, doi:10.1068/c0711

OECD, 2002 OECD Small and Medium Outlook (OECD, Paris)

Orser, B.J., Hogarth-Scott, S. and Riding, A.L. (2000) 'Performance, firm size and management problem solving', *Journal of Small Business Management*, 38 (4), 42-58

PACEC (1998) *Business Links – Value for Money Evaluation Final Report,* October, Cambridge.

Pawson S, Tilley N, 1997 *Realistic Evaluation*, Sage, London.

Pfaffermayr, M (2004) Export orientation, foreign affiliates, and the growth of Austrian manufacturing firms, *Journal of Economic Behavior and Organization*, 54, 411-423

Rigby A (2004) Has the take-up of business advice reached tipping-point yet? *Business Adviser*, no 21, Institute of Business Advisers, Chesterfield.

Robson, P.J.A. and Bennett, R.J. (2000) "SME Growth: The Relationship with Business Advice and External Collaboration", Small Business Economics, Vol. 15, No. 3, November, pp. 193-208.

Roper, S (1999) 'Modelling small business growth and profitability, *Small Business Economics*, 13, 235-252

Roper, S; Hart, M; Bramley, G; Dale, I and Anderson, C (2001) 'Paradise Gained-the Business Link Tracker Study', presented to the 24th ISBA Conference, Leicester; copy available from Mark Hart, SBRC, Kingston University, Kingston Hill, Kingston-upon-Thames, Surrey, UK, KT2 7LB

Roper, S and Hewitt-Dundas, N (2001) 'Grant Assistance and Small Firm Development in Northern Ireland and the Republic of Ireland', *Scottish Journal of Political Economy,* 48, 1, 99-117.

Roper, S and Hart, M (2005) 'Small Firm Growth And Public Policy In The UK: What Exactly are the Connections?' Working Paper, Aston Business School (RP0504).

SBS (2003) *Government action plan for small business*, Small Business Service, Sheffield URN 03/1592

SBS, (2004) *Business Plan 2004*, London, DTI URN 04/330. at http://www.sbs.gov.uk/content/whoweare/sbs_busplan2004.pdf

SBS (2006) *Annual Survey of Small Businesses*, 2004/5 http://www.sbs.gov.uk/SBS_Gov_files/researchandstats/ASBS-Report.pdf accessed 10/4/06

Sear, L, and Agar, J, (1996) 'A Survey of Business Link Personal Advisers: Are They Meeting Expectations?' Durham University Business School, Durham

Storey, D J (1994) *Understanding the Small Business Sector* Routledge, London

Westhead, P., Ucbasaran, D. and Wright, M. (2003) Differences between private firms owned by novice, serial and portfolio entrepreneurs: implications for policy-makers and practitioners. *Regional Studies* **37**(2): 187-200.

Wooldridge, J.M. (2002) *Econometric Analysis of Cross Section and Panel Data*, MIT Press, Boston, MA.